Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of manufacturing a semiconductor device, comprising an etching step of ~~opening a contact hole~~ forming an opening in an insulating film by reactive ion etching;

wherein the opening is a contact hole;

wherein said etching step includes a first step of carrying out etching at a predetermined etching rate and a second step of carrying out etching at a rate lower than said predetermined etching rate; [[and]]

wherein said second step is carried out after said first step is carried out and before an underlayer is exposed by the opening, and a gas with a composition and a supply amount is supplied in said second step, at least one of said composition and said supply amount of said gas being different from a composition and a supply amount of a gas supplied in said first step; and

wherein the composition and supply amount of the gas supplied in said second step are selected in such a way that a protective film is formed on a surface of the underlayer in said opening.

2. (Original) A semiconductor device manufacturing method according to claim 1, wherein:

said contact hole is formed in the insulating film on at least one of a source region and a drain region of a field-effect transistor.

3. (Previously Presented) A semiconductor device manufacturing method according to claim 1, wherein:

said insulating film is a silicon oxide film.

4. (Previously Presented) A semiconductor device manufacturing method according to claim 1, wherein:

said supply gas contains at least C and F and the supply amount of said supply gas is reduced in said second step as compared with that in said first step.

5. (Previously Presented) A method of manufacturing a semiconductor device according to claim 1, wherein:

said supply gas contains oxygen and a gas containing C and F, and a supply amount of said oxygen is reduced in said second step as compared with that in said first step.

6. (Previously Presented) A method of manufacturing a semiconductor device according to claim 1, wherein:

said supply gas contains oxygen and a gas containing C and F, and a supply amount of said gas containing C and F is reduced in said second step as compared with that in said first step.

7. (Previously Presented) A method of manufacturing a semiconductor device according to claim 1, wherein:

said supply gas contains oxygen and a gas containing C and F, and a composition of said oxygen and said gas containing C and F is changed in said second step from that in said first step.

8. (Previously Presented) A method of manufacturing a semiconductor device according to claim 1, wherein:

the etching is carried out until 80% to 95% of a predetermined depth of said opening in said first step and thereafter said second step is carried out.

9. (Previously Presented) A method of manufacturing a semiconductor device according to claim 1, wherein:

said reactive ion etching is carried out in a microwave-excited plasma processing apparatus and a power for plasma excitation is reduced in said second step as compared with that in said first step.

10. (Previously Presented) A method of manufacturing a semiconductor device according to claim 1, wherein:

the composition and supply amount of the gas supplied in said second step are selected so that a thickness of a deposit on a side wall of said opening becomes 10% or less of a diameter of said opening.

11. (Cancelled)

12. (Currently Amended) A method of manufacturing a semiconductor device according to claim [[11]] 1, wherein:

said protective film formed on the surface of the underlayer comprises a fluorocarbon film.

13 - 15. (Cancelled)

16. (Currently Amended) A method of etching an insulating film for forming an opening in the insulating film by reactive ion etching, wherein:

said etching includes a first step of carrying out etching at a predetermined rate and a second step of carrying out etching at a rate slower than said rate, and said second step is carried out after said first step is carried out and before an underlayer is exposed by said opening; [[and]]

wherein a gas with a composition and a supply amount is supplied in said second step, at least one of said composition and said supply amount being different from a composition and a supply amount of a gas supplied in said first step; and

wherein the composition and supply amount of the gas supplied in said second step are selected in such a way that a protective film is formed on a surface of the underlayer in said opening.

17. (Original) A method of etching an insulating film according to claim 16, wherein:

said insulating film is a silicon oxide film.

18. (Previously Presented) A method of etching an insulating film according to claim 16, wherein:

said supply gas contains at least C and F and the supply amount of said supply gas is reduced in said second step as compared with that in said first step.

19. (Previously Presented) A method of etching an insulating film according to claim 16, wherein:

said supply gas contains oxygen and gas containing C and F, and a supply amount of said oxygen is reduced in said second step as compared with that in said first step.

20. (Previously Presented) A method of etching an insulating film according to claim 16, wherein:

said supply gas contains oxygen and gas containing C and F, and a supply amount of said gas containing C and F is reduced in said second step as compared with that in said first step.

21. (Previously Presented) A method of etching an insulating film according to claim 16, wherein:

said supply gas contains oxygen and gas containing C and F, and a composition of said oxygen and said gas containing C and F is changed in said second step from that in said first step.

22. (Previously Presented) A method of etching an insulating film according to claim 16, wherein:

the etching is carried out till 80% to 95% of a predetermined depth of said opening in said first step and thereafter said second step is carried out.

23. (Previously Presented) A method of etching an insulating film according to claim 16, wherein:

said reactive ion etching is carried out in a microwave-excited plasma processing apparatus and a power for plasma excitation is reduced in said second step as compared with that in said first step.

24. (Previously Presented) A method of etching an insulating film according to claim 16, wherein:

the composition and supply amount of the gas supplied in said second step are selected so that a thickness of a deposit on a side wall of said opening becomes 10% or less of a diameter of said opening.

25. (Cancelled)

26. (New) A semiconductor device manufacturing method according to claim 1, further comprising a third step for removing the protective film formed on the surface of the underlayer, wherein a gas with a composition and a supply amount is supplied in said third step, at least one of said composition and said supply amount of said gas being different from the composition and the supply amount of the gas supplied in said second step.

27. (New) A semiconductor device manufacturing method according to claim 16, further comprising a third step for removing the protective film formed on the surface of the underlayer, wherein a gas with a composition and a supply amount is supplied in said third step, at least one of said composition and said supply amount of said gas being different from the composition and the supply amount of the gas supplied in said second step.